

**Work Order ID 69604**

Thursday, May 12, 2011 3:13:28 PM



Page 1

Item ID: D4149-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Lug Plate, Aft

Start Date: 5/12/2011 Start Qty: 12.00



Cust Item ID:

Required Date: 5/16/2011 Req'd Qty: 12.00



Customer:

Reference:

Approvals:

Process Plan:

Date: 11-05-12

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4149	C								
100		0.00							
Waterjet		0.00							
FLOW CNC Waterjet									
304.125									
	Memo								
	Cut as per dwg D4149								
	Prog Rev:								
	Dwg Rev:								
	Deburr as required								
110		0.00							
QC		0.00							
Quality Control									
	QC2- Inspect parts off machine FAI/FAIB								
	Memo								

B11-5-14

(16)

B11-5-14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			






**NOTE:** Date & initial all entries

**Work Order ID 69604**



Thursday, May 12, 2011 3:13:28 PM






Page 2

Item ID: D4149-1 Accept  Setup Start   
Revision ID:  
Item Name: Crosstube Lug Plate, Aft Stop   
Start Date: 5/12/2011 Start Qty: 12.00  Cust Item ID:  
Required Date: 5/16/2011 Req'd Qty: 12.00  Customer:

**Reference:**

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start   
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120  QC Quality Control	QC8- Inspect parts - second check  Memo	0.00 0.00		8 11/05/16		(45)			Pro →
150  Packaging Packaging	Identify as per dwg & Stock Location: 133  Memo	0.00 0.00				11/5/16			SP (15)
160  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00 0.00							11/5/18 11-05-18 (15)

W/O: 69604		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
11/05/16	#120	took qty #1 For inspection template	8	11/05/16	x1		8 11/05/16

Part No: D4149-1 PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries

# Picklist Print

Thursday, May 12, 2011 3:13:34 PM

Page 1

Work Order ID: 69604



Parent Item: D4149-1



Parent Item Name: Crosstube Lug Plate, Aft



Start Date: 5/12/2011

Required Date: 5/16/2011

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP Rev:A 10.06.24 new issue DD verf:EC  
IPP Rev:B 11.03.03 as per revC DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S11GA  304/316 0.125 Sheet		Purchased	No			100	sf	157.9000	0.1355	1.711579			
													
						<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>				
						MAT020		157.9					
						117494		157.9					
										117494			

B1-5-14

16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 69604
<b>Description:</b> Aft Crosstube Lug Plate		<b>Part Number:</b> D4149-1
<b>Inspection Dwg:</b> D4149	<b>Rev:</b> B	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.129	+0.005/-0.001	.130	x		✓ RBZ	
Ø0.191	+0.005/-0.001	.191	x		✓	
Ø0.257	+0.006/-0.001	.257	x		✓	
Ø0.38	+0.006/-0.001	.374	x		✓	
0.380	+/-0.010	.384	x		✓	
0.469	+/-0.010	.466	x		✓	
0.310	+/-0.010	.312	x		✓	
0.750	+/-0.010	.752	x		✓	
3.25	+/-0.030	3.251	x		✓	
0.65	+/-0.030	.651	x		✓	
0.63	+/-0.030	.626	x		✓	
5.46	+/-0.030	5.463	x		✓	
3.80	+/-0.030	3.803	x		✓	
2.13	+/-0.030	2.125	x		✓	
1.313	+/-0.010	1.318	x		✓	
0.625	+/-0.010	.626	x		✓	
0.375	+/-0.010	.378	x		✓	
1.175	+/-0.010	1.180	x		✓	
0.752	+/-0.010	.754	x		✓	
1.588	+/-0.010	1.587	x		✓	
1.587	+/-0.010	1.587	x		✓	
11.15	+/-0.030	11.155	x		P	
0.750	+/-0.010	.756	x		✓	
1.55	+/-0.030	1.557	x		✓	
1.12	+/-0.030	1.130	x		✓	
8.42	+/-0.030	8.416	x		PROW302	
2.70	+/-0.030	2.70	x		✓	
0.125	+/-0.010	.121	x		✓	

<b>Measured by:</b> RB	<b>Audited by:</b> D	<b>Preliminary Approval:</b> N/A
<b>Date:</b> 11-5-14	<b>Date:</b> 11/07/16	<b>Date:</b> N/A

Rev	Date	Change	Revised by	Approved
A	10.08.04	New Issue	KJ	

# Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

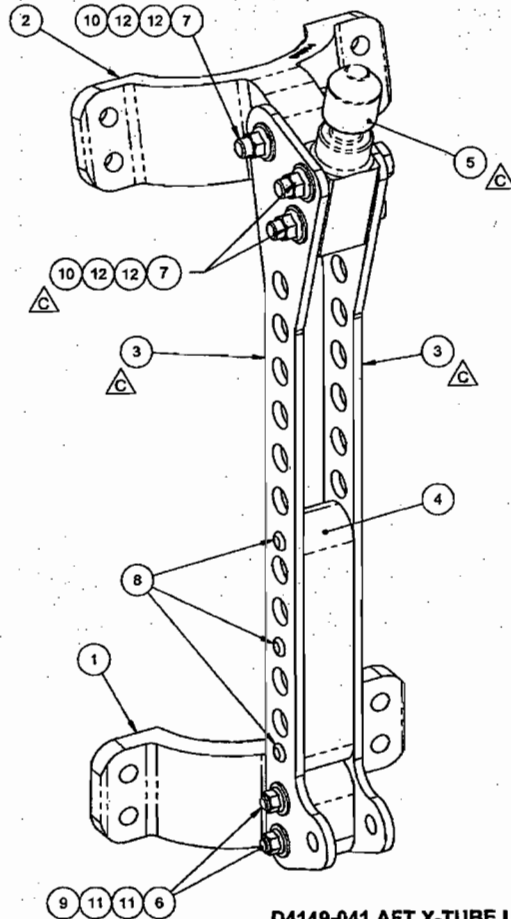
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries





**D4149-041 AFT X-TUBE LUG ASSY**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4149-041" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 2.21 lbs

ITEM	QTY -041	P/N	DESCRIPTION
	X	D4149-041	AFT X-TUBE LUG ASSY
1	1	D3910-1	X-TUBE LUG
2	1	D4091-1	MOUNTING LUG
3	2	D4149-1	AFT X-TUBE LUG PLATE
4	1	D4149-3	SPACER
5	1	D4149-5	EYEBOLT STUD
6	2	AN3C12A	BOLT
7	3	AN4C13A	BOLT
8	3	MS20615-4M18	RIVET
9	2	MS21043C3	NUT
10	3	MS21043C4	NUT
11	4	NAS1149C0332R	WASHER
12	6	NAS1149C0432R	WASHER

RELEASED  
2011-02-24  
JN

C	HOLE DIA CHANGED TO 0.252" (D8-3); HOLE DIA CHANGED TO 0.250" (C8-5); REPLACED QTY(2) AN3C12A, MS21043C3 AND QTY(4) NAS1149C0332R WITH QTY(2) AN4C13A, MS21043C4 AND QTY(4) NAS1149C0432R (D3-1, D7-2)	SC	11.02.22
B	MS20615-4M18 WAS MS20615-4M20 (ZN D3-1 & B7-2); ADDED D4149-5 (SHT 5); D4149-5 WAS D3910-5 (ZN D3-1 & D7-2); REPLACED QTY(3) MS20615-4M18 WITH QTY(2) EACH AN3C12A, MS21043-3 AND QTY(4) NAS1149C0332R WASHER (ZN D3-1, C7-1, B7-2 & B3-2); Ø0.191 2 PL REPLACES Ø0.129 3 PL (ZN D8-3) REASON: SEE TR-D350-907-2 REV. B.	MB	10.07.05
A	NEW ISSUE	MB	10.06.18
REV.	DESCRIPTION	BY	DATE
DESIGN	MB		
DRAWN	SC		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	11.02.22		

**DART AEROSPACE LTD**  
HAWKESBURY, ONTARIO, CANADA

DRAWING NO.  
**D4149**

TITLE  
**AFT X-TUBE LUG ASSY**

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REV. C  
SHEET 1 OF 5  
SCALE  
NTS

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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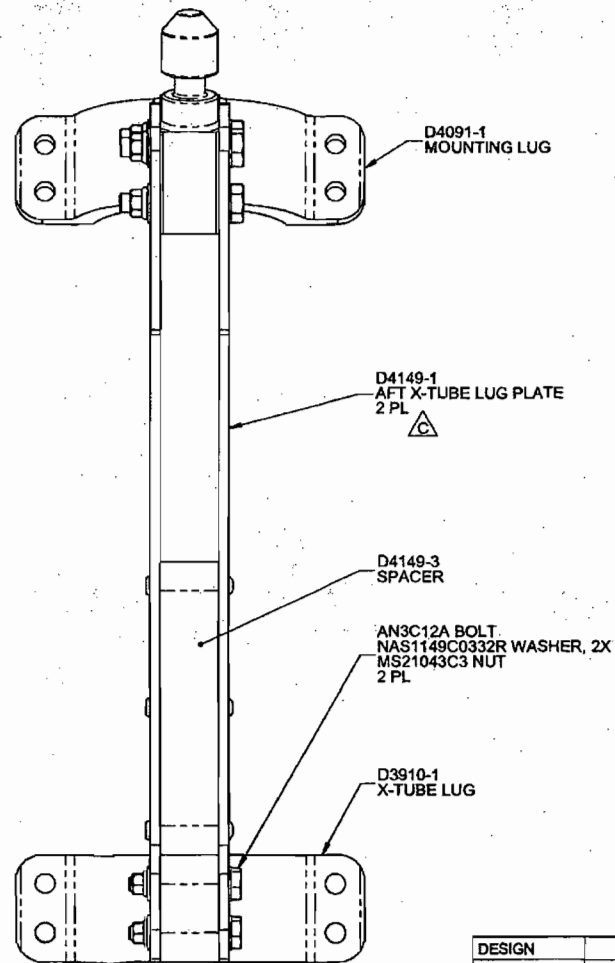
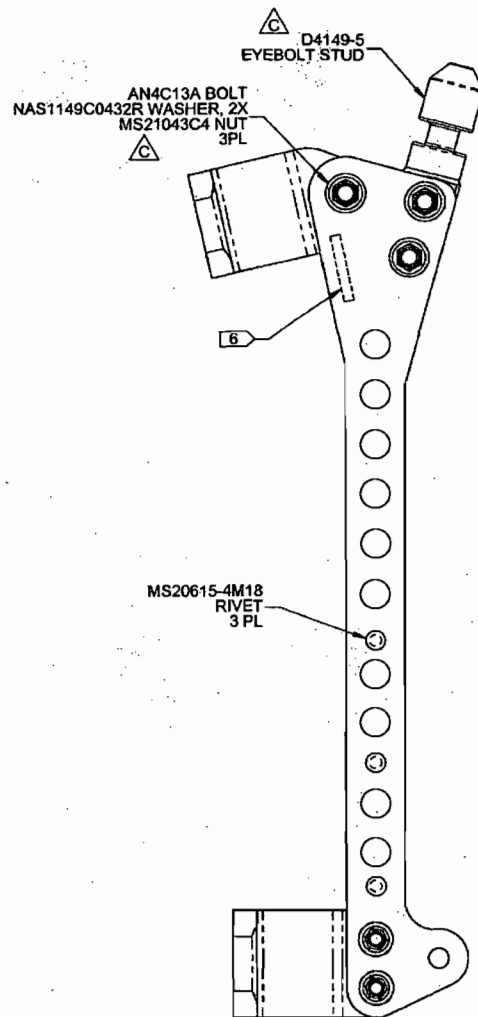
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**D4149-041 AFT X-TUBE LUG ASSY**

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 69604

*11-05-B*

**RELEASED**  
2011-02-24  
*MP*

DESIGN	MB	<b>DART AEROSPACE LTD</b>	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D4149	SHEET 2 OF 5
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	AFT X-TUBE LUG ASSY	NTS
DATE	11.02.22	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

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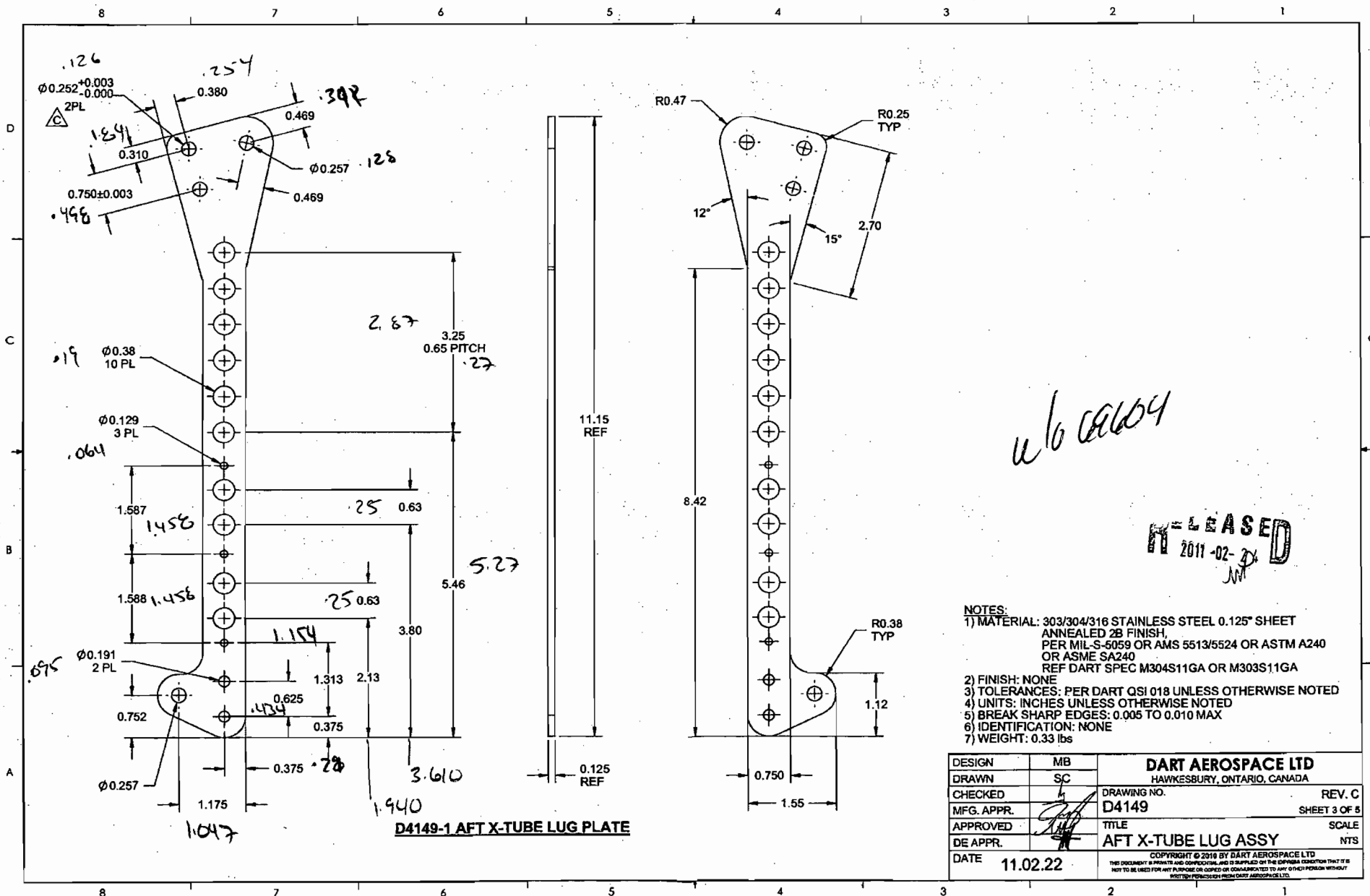
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



u/b 06604

RELEASED  
2011-02-24

- NOTES:**
- 1) MATERIAL: 303/304/316 STAINLESS STEEL 0.125" SHEET  
ANNEALED 2B FINISH,  
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240  
OR ASME SA240  
REF DART SPEC M304S11GA OR M303S11GA
  - 2) FINISH: NONE
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: NONE
  - 7) WEIGHT: 0.33 lbs

DESIGN	MB	<b>DART AEROSPACE LTD</b>	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4149	SHEET 3 OF 5
APPROVED		TITLE	SCALE
DE APPR.		AFT X-TUBE LUG ASSY	NTS
DATE	11.02.22	<small>COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

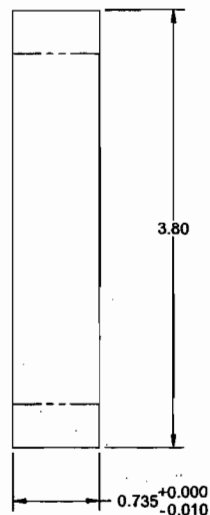
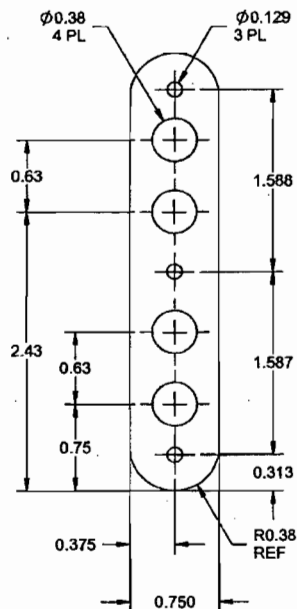
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

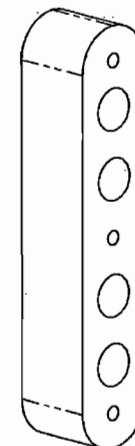
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



**D4149-3 SPACER**



*w/o 69604*

**RELEASED**  
2011-02-22

- NOTES:**
- 1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A276 OR A582  
REF DART SPEC MS304B OR MS303B
  - 2) FINISH: NONE
  - 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: NONE
  - 7) WEIGHT: 0.47 lbs

DESIGN	MB	<b>DART AEROSPACE LTD</b>	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		<b>D4149</b>	SHEET 4 OF 5
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DE APPR.		<b>AFT X-TUBE LUG ASSY</b>	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

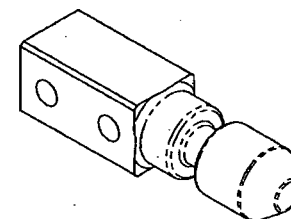
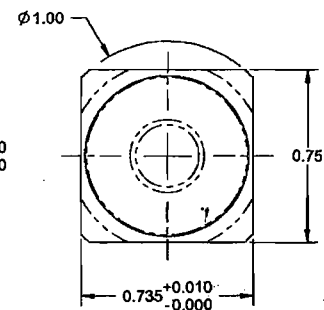
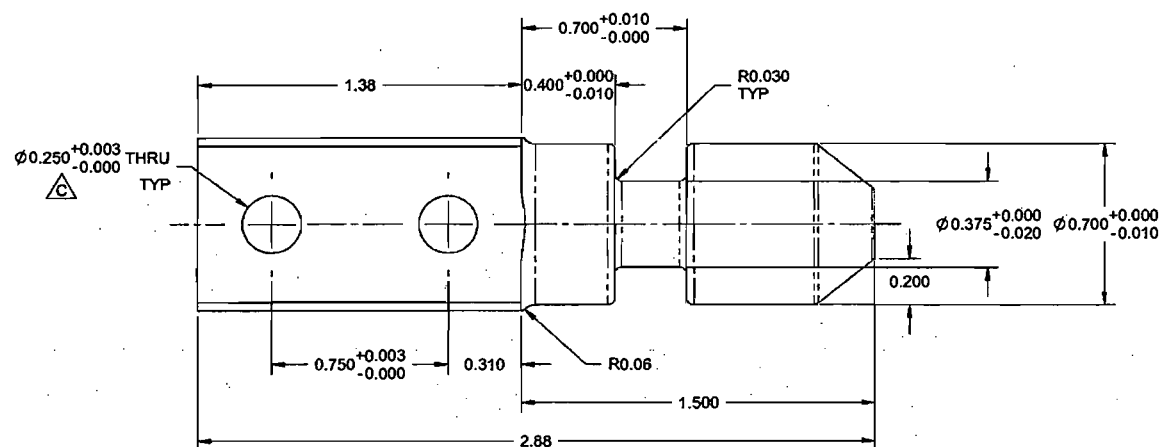
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





**D4149-5 EYEBOLT STUD**

*w/066604*

**RELEASED**  
2011-02-21

**NOTES:**

- 1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A276 OR A582  
REF DART SPEC MS304B OR MS303B
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4149-5" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.32 lbs

DESIGN	MB	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED	A	DRAWING NO.	REV. C
MFG. APPR.		<b>D4149</b>	SHEET 5 OF 5
APPROVED		TITLE	SCALE
DE APPR.		<b>AFT X-TUBE LUG ASSY</b>	NTS
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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